

Alister Marc B. Domilies

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Experiences

Those Who Care

Remote

Data Analyst / Scientist

October 2024 – Present

- Developed a predictive model for cancellation rates which has significantly reduced error rates compared to the existing model.
- Automated workflows using AppsScript for database queries and automated email notifications to stakeholders.
- Regularly maintained data refresh processes for integrating incoming data into the database.
- Developed Looker reports accessible to clients to provide actionable insights.
- Conducted client meetings to present data insights and recommendations.

Netopia AI

Remote

AI Engineer Intern

August 2024 - September 2024

- Developed code leveraging LLMs like LLaMA to simulate human reactions to political statements based on behavior derived from survey responses.
- Experimented with various prompt engineering techniques and input structures to optimize model performance.
- Researched and conceptualized a data-driven chatbot capable of querying user inputs, retrieve relevant database information, and generate contextually accurate responses.

Petron Corporation (Refinery)

Limay, Bataan

Hydrogen Process Engineer / Data Analyst

Mar 2022 – July 2024

- Applied machine learning methodologies to analyze and explore refinery datasets to extract valuable insights for process optimization.
- Developed and maintained Power BI dashboards for weekly highlights of process parameter conformities.
- Prepared and delivered comprehensive reports detailing predictive model outcomes and recommendations to the management.
- Developed predictive models for the remaining lifetime of catalysts, extending their life by 3 years and reducing costs by 50M Php.
- Led the optimization of steam drum blowdown, resulting in a 30% reduction in water consumption (20,000 L/day) and a 20% reduction in chemical usage.
- Applied statistical analysis to assess the significance of parameter changes in the process.
- Collaborated with cross-functional teams to troubleshoot process issues, and propose profitable projects.

Online Tutor / Review Center Lecturer

Freelance Tutor

Aug 2020 – Mar 2022

- Identified among the top 1% of online tutors, earned proficiency badges in Mathematics, Engineering, etc.
- Delivered lectures to students preparing for the chemical engineering board exam.

Education

University of the Philippines – Diliman

Quezon City, Metro Manila

Masters of Engineering in Artificial Intelligence

Sep 2023 - Jun 2025

Relevant Coursework:

- GWA: 1.19
- Built and deployed a Retrieval-Augmented Generation (RAG) chatbot for Quezon City ordinances and resolutions. The system understands natural language queries, retrieves relevant legal texts, and generates context-aware answers. It was deployed on an EC2 instance using the Django framework.
- Developed a predictive model using an ensemble technique for hydrogen consumption of units in Petron Bataan Refinery. This has improved accuracy by over 20% compared to the existing model.
- Designed and deployed an image detection and segmentation system for grocery items using YOLO and integrated with Streamlit for user interface.

- Conducted a study on localized Filipino fake news detection and employed different machine learning techniques including ensemble and neural networks classifiers, and deployed the solution using Flask.
- Developed a speech-to-speech dubbing system that mimics a target speaker's voice. Currently optimizing for lower latency.
- Implemented transformers including the encoder-decoder architecture from scratch for translation of English to Tagalog words.
- Built a Python Dash dashboard that automatically stores user inputs in a database using advanced SQL skills, including window functions, CTEs, subqueries, and more.
- Benchmarked Llama 3.2 to evaluate its capability in handling long-context question-and-answer tasks.
- Implemented AI algorithms for A*, Spam Filter, Neural Networks, and Classifier Ensembles using Python from scratch, demonstrating a deep understanding of the artificial intelligence principles.
- Mastered foundational deep learning topics, including MLPs, CNNs, RNNs, LSTMs, Transformers, Optimization, Regularization, and Autoencoders.
- Conducted data preprocessing, feature engineering, hyperparameter tuning, training and model evaluations for multiple AI models particularly dealing with large datasets.
- Proficient in Pandas, NumPy, Matplotlib, and Seaborn for effective data manipulation and visualization.
- Experienced in model training using frameworks like scikit-learn, PyTorch, TensorFlow, Keras, and libraries such as Einsum, Einops, NLTK, spaCy, and Transformers.
- Utilized statistical analysis for model development, including regression, ANOVA, and response surface plots in Python, R and Minitab.

Saint Louis University

Bachelor of Science in Chemical Engineering

Baguio City

Aug 2015 – May 2020

Awards and Achievements:

- Graduated Magna Cum Laude and achieved the highest General Weighted Average among Chemical Engineering Students of Batch 2020.
- Attained the third-highest examination rating in the October 2021 National Chemical Engineering Licensure exam.
- Utilized Java to solve chemical engineering problems, focusing on modeling chemical reaction kinetics, heat and mass balances, and fluid dynamics.
- Conducted experiments to measure reaction rates and developed regression models to predict reaction kinetics under varying conditions.